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(54) STAINLESS STEEL AND PIPING SYSTEM

(57) Abstract:

PURPOSE: To obtain a steel and a piping system, excellent in metallic contamination-free characteristic, liberation gas characteristic, non-catalytic property, and corrosion resistance, by controlling respective contents of Mn, S, Cu, C, and Al, which constitute a dual phase stainless steel, and allowing a passivating film of chromium oxide to exist on the surface.

CONSTITUTION: This stainless steel is a dual phase stainless steel having a composition containing 20.03% Mn, 20.001% S, 20.05% Cu, 20.01% C, and 20.01% Al and has a passivating film of chromium oxide on the surface composed of previously microcrystallized deformed phase. By reducing Mn, S, Cu, C, and Al contents as mentioned above, a denser amorphous film can be formed. Further, because of the reduction in the contents of Mn, Cu, and S, having vapor pressures higher by several figures than other components,

respective fumes of these elements, generated at the time of welding, can be drastically reduced. Accordingly, the piping system having a weld zone free from deterioration in corrosion resistance in the vicinity of a weld zone can be obtained.

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